DOCUMENT RESUME

ED 221 854 CS 006 856

AUTHOR Crismore, Avon; Gerow, Joshua
TITLE Using a Discourse Comprehension Test to Predict Introductory Psychology Performance.
PUB DATE [79]
NOTE 9p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; Comparative Analysis; *Educational Research; Higher Education; Language Usage; Listening Comprehension; *Predictive Measurement; Prognostic Tests; *Psychology; Reading Comprehension; *Reading Tests
IDENTIFIERS *Discourse Comprehension Abilities Test; *Nelson Denny Reading Tests

ABSTRACT

Prediction of academic success in introductory psychology courses is useful for both students and teachers. Although scores on the major intellectually oriented standardized aptitude tests are often useful predictors of introductory psychology grades, these scores are frequently unavailable. When major standardized measures of general intellectual aptitude cannot be used, it has been found that the Nelson Denny Reading Test (NDRT) predicts semester grades equally well. Still, in order to enhance the predictability of success in these courses, an intellectually oriented instrument, the Discourse Comprehension Abilities Test (DCAT) was constructed. Part 1 of the DCAT, the Language Usage Test (LUT), is a 20-minute paper and pencil test consisting of three subtests. Part 2 of the DCAT, Listening Comprehension (LC), consists of three taped subtests totalling 25 minutes. The purpose of this study is to determine the extent of correlation between scores on the DCAT and the criterion measure, semester point totals, in introductory psychology classes for which entrance tests were largely unavailable, and to determine if the DCAT scores are comparable or superior to NDRT scores as predictors of academic performance. Results indicate that although the DCAT and NDRT both appear to be useful predictors of classroom performance, the DCAT is apparently the stronger predictor. (HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED221854

CS006856

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

+ This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Using a Discourse Comprehension Test to Predict Introductory Psychology Performance

Avon Crismore

Center for the Study of Reading

University of Illinois

and

Joshua Gerow

Indiana - Purdue University Fort Wayne

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Avon Crismore

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Prediction of academic success in introductory psychology courses is useful for students and teachers; students gain objective information as to whether they are really prepared for the work expected of them in the course, and teachers gain insights into the ability and preparation of their students, resulting in more appropriate instructional decisions. Because two year and four year state institutions with open-admission enrollment occasionally experience a high failure rate for introductory psychology students, it is important to determine factors affecting student performance and to determine the best predictors of semester grades. The Psychology Department of Indiana-Purdue University, Fort Wayne (IPFW) is attempting to compile a battery of assessments to be used as predictors of classroom performance since approximately one-quarter of the 1800 introductory psychology students are failing or withdrawing from the course.

Although scores on the major intellectually-oriented standardized aptitude tests such as the SAT or the American College Testing (ACT) Program tests (American College Testing Program, 1973) are often useful predictors of introductory psychology grades (Zimmerman, Wise, & Smith, 1974), these scores are frequently unavailable. When major standardized measures of general intellectual aptitude cannot be used as predictors, it has been found that the Nelson Denny Reading Test (NDRT) predicts semester grades equally well. The median correlation between the NDRT scores and each of the two criterion measures used was 0.56 (Gerow & Murphy, 1979); Zimmerman, Wise, & Smith (1974) reported a correlation of 0.56 for the ACT total measure. Over seven semesters, degree status and the College Inventory of Academic Adjustment (CIAA) in addition to the NDRT, were found to be

good predictors of classroom performance (Gerow & Murphy, 1979). However, because the NRDT, degree status, and CIAA combined accounted for only about 20 to 45 percent of the variance in class grades, the search has continued for additional predictor variables that individually or collectively could enhance the predictability of success in introductory psychology courses.

It was decided to construct an intellectually-oriented instrument, the Discourse Comprehension Abilities Test (DCAT). The DCAT attempts to assess factors affecting student performance not tapped in general intellectual aptitude measures, NDRT, or CIAA. It was hypothesized that ability to integrate information across sentences and to assign relevance (importance) appropriately in discourse comprehension processing were important factors. Robertsen (1968) found a significant relationship between understanding logical connectors and abilities in listening, reading, and written language. Goodman (1968) and van Dijk (1979) see processing fluency as largely resulting from greater familiarity with the cue systems operating in language.

Part one of the DCAT, the Language Usage Test (LUT), is a twenty-minute paper and pencil test consisting of three subtests. A modified cloze procedure is used in subtest one with two non-related units of connected discourse. Each unit contains four blanks to be filled in with logical connectors relating sentences on both local and global levels. Subtest two consists of twelve separate pairs of related sentences with blanks between each pair requiring an appropriate logical connector relating ideas on a local level only. The following item is taken from subtest two.

Students are showing greater interest in baseball as a school sport. _____ students are showing a greater interest in dramatics.

The third subtest, consisting of twenty sentences, assesses recognition of relevance signalers: summarizers, concluders, theme, superstructure, and support indicators. Students must choose whether each sentence is introductory, concluding, transitional, or none. An example sentence from subtest two would be:

Clearly then, the energy crises requires the recommended two-pronged approach.

It was also felt that listening comprehension might be another factor in student failures or successes since high competence in listening as well as reading is essential for superior academic achievement in introductory psychology. Two studies claim to have isolated separate listening and reading language comprehension factors (Caffrey, 1953; Spearritt, 1961). Ruddell (1979) found listening comprehension highly predictive for literacy achievement of subjects in grades 8, 9, and 10. Other possible factors for prediction were thought to be passage length, content, format, and register.

Part two of the DCAT, Listening Comprehension (LC), consists of three taped subtests totalling twenty-five minutes. Subtest one is a twelve-minute introductory psychology lecture segment on human information processing with fifteen questions assessing content and register knowledge. Subtest two is an eight minute psychological report of a divorce workshop for adolescents with thirteen questions assessing content, format, and register knowledge. Subtest three is a three-minute psychological report on an instructor-developed aptitude test as a predictor with ten questions

assessing content, format, and register knowledge. Each passage in part two increases in content difficulty, format unfamiliarity, and register formality.

The purpose of this study was to determine the extent of correlation between scores on the DCAT and the criterion measure, Semester Point Totals in introductory psychology classes for which entrance tests were largely unavailable, and to determine if the DCAT scores were comparable or superior to NDRT scores as predictors of academic performance.

Method

The DCAT and NDRT were administered to 64 students enrolled in an introductory psychology class as early in a summer session as was feasible.

Results

The following results are apparent from inspection of the entries of Table 1.

1. Discourse Comprehension Abilities Test (DCAT), Language Usage Test (LUT), and Listening Comprehension (LC) scores were correlated $r = .72$, $r = .61$, and $4 = .66$ respectively with Semester Point Total. It is on the basis of this Semester Point Total that grades in the course are assigned.
2. The Nelson Denny Reading Test (NDRT) and its vocabulary subtest (ND VOC) scores were correlated $r = .56$ and $r = .49$ with Semester Point Total.
3. The NDRT and LUT scores combined were correlated $R = .68$ with Semester Point Total.

4. The ND VOC and LUT scores combined were correlated R = .66 with Semester Point Total.

Discussion

The DCAT appears to be a very promising predictor of classroom performance since it accounted for approximately 52 percent of the variance in class-grades. With only a single correlation, however, it is apparent that more investigation of the DCAT is necessary. If the correlations persist at the same level of magnitude after further testing, the DCAT could be considered not only a good addition to the battery of predictor tests already discovered, but perhaps even a better predictor for student achievement in introductory psychology than the NDRT.

References

Aleamoni, L. M. and Oboler, L. ACT versus SAT in predicting first semester GPA. Educational and Psychological Measurement, 1978, 38, 393-399.

American College Testing Program. Assessing students on the way to college: Technical report for the ACT assessment program. Iowa City, Iowa: American College Testing Program, 1973.

Caffrey, J. Auding ability as a function of certain psychometric variables. Doctoral dissertation, University of California at Berkeley, 1953.

van Dijk, T. A. Relevance assignment in discourse comprehension. Discourse Processes, 1979, 2, 113-126.

Gerow, J. R. and Murphy, D. P. The validity of the Nelson Denny Reading Test as a predictor of performance in Introductory Psychology. Educational and Psychological Measurement, in press.

Goodman, K. S. The psycholinguistic nature of the reading process. Detroit: Wayne State University Press, 1968, 13-26.

Robertson, J. L. Pupil understanding of connectives in reading. Reading Research Quarterly, 1968, 3, 387-417.

Ruddell, R. B. Early prediction of reading success: Profiles of good and poor readers. Unpublished manuscript, 1979.

Spearritt, D. A factorial analysis of listening comprehension. Doctoral dissertation, Harvard University, 1963.

Zimmerman, R. R., Wise, L., and Smith, O. W. Early detection of final performance in an introductory course in general psychology. Psychological Reports, 1974, 35, 620-622.

Table 1

Correlations between Predictors and Semester

Point Totals for Subjects (N = 64)

Measures	Correlation
Discourse Comprehension Abilities Test (DCAT)	r = .72
Language Usage Test (LUT)	r = .61
Listening Comprehension	r = .66
Nelson Denny Reading Test (NDRT)	r = .56
Nelson Denny Vocabulary (ND VOC)	r = .49
NDRT and LUT	R = .68
ND VOC and LUT	R = .66